

Protecting the Chesapeake Bay and its tributaries from excess nutrients—chiefly nitrogen and phosphorus—is a top priority in Maryland. Studies have shown that agriculture is responsible for 38 percent of the nitrogen and 41 percent of the phosphorus entering the bay. The Water Quality Improvement Act of 1998 (WQIA) requires farmers grossing \$2,500 a year or more to run their operations using a plan that closely matches fertilizer use with crop nutrient needs. Livestock operations with 8,000 pounds or more of live animal weight must also use nutrient management plans to utilize and manage animal wastes. In addition, commercial lawn care companies, landscapers and certain non-agricultural fertilizer applicators are required by law to follow Maryland Cooperative Extension guidelines when applying nutrients to lawns and fields.

MARYLAND DEPARTMENT OF AGRICULTURE

Making Nutrient Management Work

Nutrient Management Program
2003 Annual Report

NUTRIENT MANAGEMENT IN MARYLAND

The Maryland Department of Agriculture's (MDA) Nutrient Management Program (NMP) is responsible for carrying out the requirements of the WQIA. It oversees the certification and licensing of nutrient management consultants as well as continuing education and applicator training programs for consultants and farmers. To assist farmers and consultants in complying with program requirements, MDA maintains six regional NMP offices throughout the state. It also coordinates and verifies compliance with nutrient management cost-share programs, incorporates new research data into the program's technical requirements and provides grants to support ongoing research and field testing of state-of-the-art nutrient reduction strategies. MDA works closely with a number of local, state and federal agencies, including the University of Maryland to coordinate research findings and ensure consistency with Maryland's soil conservation and water quality goals.



FARMER OUTREACH AND COMPLIANCE

On August 5, 2003, MDA hosted a one-day summit at Chesapeake College in Wye Mills for farmers, nutrient management consultants, scientists, agricultural organizations, environmental groups and other interested stakeholders to discuss ways to streamline the Nutrient Management Program and make it more effective in protecting water quality. More than 300 stakeholders attended the summit, meeting in small groups to brainstorm issues ranging from who should be covered by the law, to enforcement and record keeping requirements. The focus groups put forward more than 50 suggestions for improving the program. Governor Robert L. Ehrlich, Jr. has utilized the recommendations to prepare his 2004 legislative initiatives.

The number of farms in compliance with the WQIA continues to increase steadily. As of December 31, 2003, Maryland farmers had submitted to MDA 5,211 nutrient management plans and updates covering 1,076,000 acres of land with plans under development for an additional 259,600 acres of farmland. Together, the plans account for 85 percent of the agricultural land that is covered by the law.

CERTIFICATION AND LICENSING

Consultant Certification

The Nutrient Management Program trains and certifies qualified applicants to provide farmers with nutrient management plans aimed at maximizing crop yields while minimizing nutrient losses to the environment. Proper storage, handling and application of fertilizers and animal manure are emphasized. Businesses that provide nutrient management consulting services are licensed by MDA and required to file an annual report on their activities.

In Fiscal Year 2003, MDA offered two nutrient management certification exams during the winter and summer. Thirty-eight new consultants were certified, bringing the total number of Maryland certified nutrient management consultants to 982. The figure includes 147 farmers who are certified as consultants and 320 individuals who are actively writing plans according to activity reports submitted by license holders. MDA also funded 31 Maryland Cooperative Extension consultants who actively write plans for farmers.

HOW NUTRIENT MANAGEMENT PLANS PROTECT WATER QUALITY

A nutrient management plan provides nutrient recommendations for each crop that a farmer is growing and every field where a crop or agricultural product is grown. Each plan is unique to the operation for which it is developed and includes recommendations for the amount, placement, timing and application of animal manure, fertilizer, biosolids or other plant nutrients. Maryland law requires nutrient management plans to be prepared by a consultant or farmer certified by MDA.

When writing a plan, a consultant examines a number of factors including soil and manure analyses, field management histories, production goals, nutrient sources and environmentally-sensitive areas located near the crop field. Appropriate application rates and timing methods are calculated based on this information.

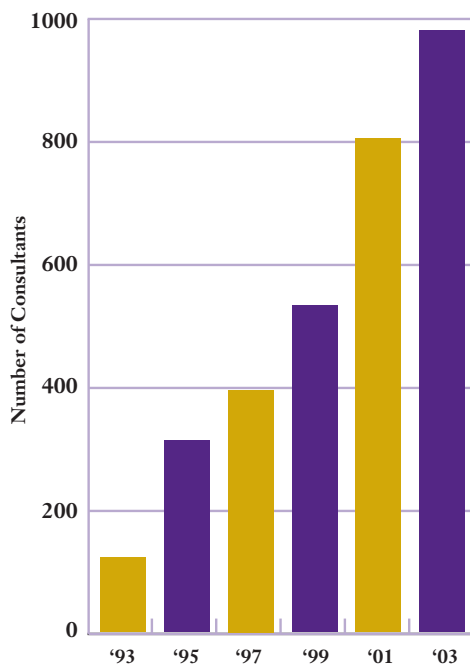
The goal of a nutrient management plan is to balance crop nutrient needs with fertilizer applications in order to achieve realistic crop yields, minimize nutrient losses to the environment and maintain soil productivity.

Farmer Training and Certification Program

In February of 2003, MDA and the University of Maryland Cooperative Extension hosted two specialized pilot training programs for farmers interested in becoming certified to write nutrient management plans for their own operations. The first training session was offered in Montgomery County on February 24, 2003 for traditional crop operations that use commercial fertilizer as their only nutrient source. A second training session was held March 5, 2003 in Carroll County for animal operations that use manure and/or commercial fertilizer to grow crops. Certification required a two-day commitment. On the first day participants learned the fundamentals of nutrient management planning and worked through a model plan. On the second day participants took a certification exam and worked with Extension staff to develop nutrient management plans for their individual operations.

Twenty-six of 27 farmers taking part in the program passed the exam and successfully completed their own nutrient management plans. These farmers are now certified to write plans for their own operations. They are required to attend continuing education classes each year in order to renew their certification and update their plan. Additional farmer certification programs for poultry, greenhouse and pasture operations are scheduled for 2004.

MARYLAND CERTIFIED NUTRIENT MANAGEMENT CONSULTANTS



EDUCATION AND TRAINING PROGRAMS

During the year, the program continued to develop and update comprehensive educational and outreach programs for certified consultants, nutrient applicators and farmers to enhance their knowledge and awareness of nutrient management and to ensure that nutrient management plans are implemented properly. Pre-exam and continuing education workshops are organized for consultants while farm operators are trained in the application of nutrients. Training materials, handbooks and other educational and outreach materials are regularly evaluated and updated with the latest scientific findings.

Consultant Training

During the fiscal year, more than 1,000 participants attended 26 training workshops and continuing education classes sponsored by the Nutrient Management Program and Maryland Cooperative Extension. The workshops covered subjects ranging from advanced phosphorus planning to managing nutrients for pasture operations. In addition, core topics covering the fundamentals of nutrient management, the Phosphorus Site Index and how to write a nutrient management plan are offered regularly to new consultants.

Applicator Voucher Training

Non-certified farmers who apply nutrients to 10 or more acres of cropland are required by the Water Quality Improvement Act to attend an applicator training course once every three years. In 2003, the Nutrient Management Program in cooperation with Maryland Cooperative Extension offered 21 voucher training sessions for 185 applicators. To date, approximately 4,073 farmers have received nutrient application vouchers.



URBAN NUTRIENT MANAGEMENT

In Fiscal Year 2003, the NMP conducted the first implementation reviews for persons hired to apply nutrients to non-agricultural land. Non-agricultural land managers, which include golf course managers, public grounds keepers, lawn care companies, landscapers and athletic field directors, are required by law to take soil tests, follow University of Maryland nutrient recommendations and keep specific records of fertilizer use.

During the course of the year, the NMP reviewed the records and fertilizer programs for 43 of these applicators. Of the non-agricultural applicators reviewed, 10 were found to be in full compliance with the law, 15 were substantially in compliance, seven received a fair rating, nine received a poor rating and two lacked sufficient records to determine a level of compliance. The office is working closely with these applicators to educate them on the requirements of the WQIA and bring them into compliance with the law.

Also during the year, the office contacted and updated 60 additional companies on urban nutrient management requirements. More than 200 individuals attended three full-day training sessions covering record-keeping requirements, spreader calibration, fertilizer recommendations and best management practices. Additional education sessions were attended by more than 650 individuals.

Record-keeping forms and two new fact sheets—*A Quick Reference Guide to Non-Agricultural Nutrient Management for Commercial Fertilizer Applicators* and *Converting Soil Test Results to University of Maryland Soil Categories*—were developed and distributed at events attended by lawn care representatives and landscape managers.

In an effort to involve more counties in citizen education programs, the NMP worked closely with the Urban Nutrient Management Workgroup (UNMWG) to sponsor a forum on stormwater monitoring and develop a comprehensive list of resources for urban nutrient management outreach and education.

INCENTIVE PROGRAMS

Cost-Share for Nutrient Management Planning

The Maryland Agricultural Water Quality Cost-Share (MACS) Program provides financial assistance to farmers who hire private consultants to prepare nutrient management plans for their operations. The reimbursement rate is 87.5 percent of the cost of the plan, up to \$3,500 per operation. In Fiscal Year 2003, MACS issued \$735,000 in grant payments to approximately 500 farmers who hired private consultants to develop their nutrient management plans. The cost-shared plans were used to manage fertilizers on approximately 206,000 acres of farmland. Because Maryland law requires farmers to update their nutrient management plans at least once every three years, program eligibility has been expanded to allow cost-share for nutrient management plan updates in 2004.

Manure Transport Program

The Manure Transport Program helps poultry, dairy, beef and other livestock producers cover the costs of transporting excess manure identified by their nutrient management plans off their farms. Animal producers with high soil phosphorus levels or too little land to apply their manure can receive cost-share assistance of up to \$18 per ton to transport excess manure to other farms or alternative use facilities that can use the product safely. To support



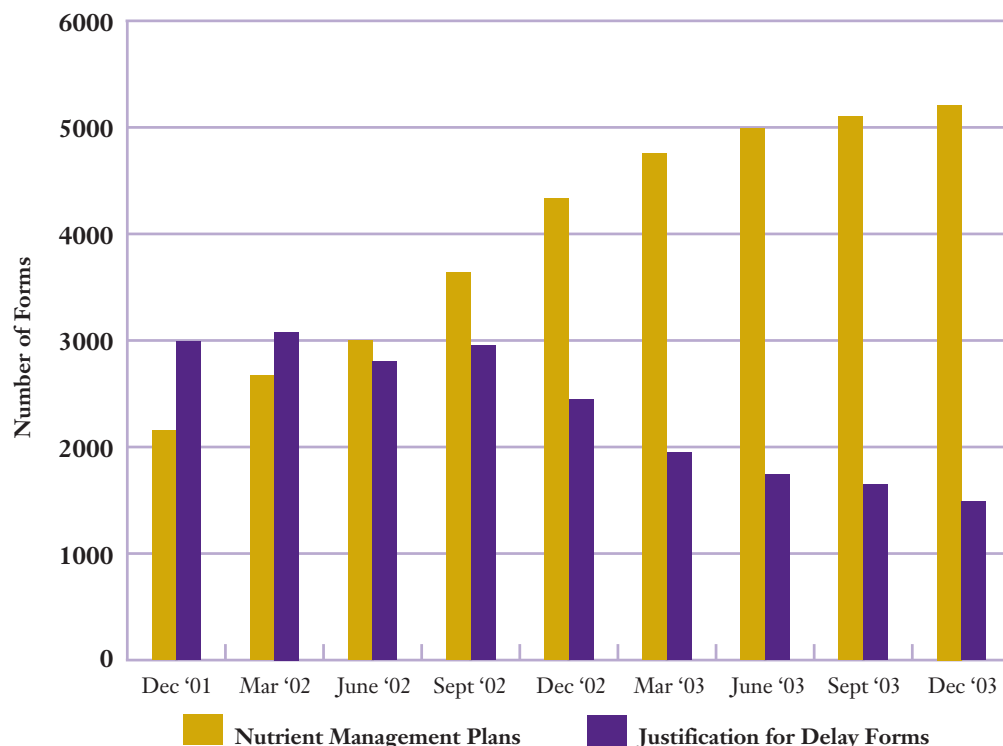
Maryland's goal of transporting 20 percent of the poultry litter produced on the Lower Eastern Shore to other regions, cost-share rates are 20 percent higher for farms located in Dorchester, Wicomico, Worcester and Somerset counties.

In Fiscal Year 2003, the program provided farmers with \$233,444 in state grant payments to transport 28,556 tons of manure away from areas with high soil phosphorus levels. Cost-share funds to transport poultry litter—comprising the bulk of the manure transported—were matched by Delmarva poultry companies, bringing to \$463,089 the total amount of financial support provided.

A Manure Matching Service supports the Transport Program by linking farmers who have excess manure with others who can use the manure safely as a nutrient source. To date, farmers registered with the service have requested more than 110,000 tons of manure. Since 1999, approximately 23 matches accounting for 11,000 tons of manure have been successfully completed.

NUTRIENT MANAGEMENT PLANS AND DELAY FORMS RECEIVED

as of December 2003



ADDITIONAL HIGHLIGHTS AND ACTIVITIES

- Conducted five educational sessions to help farmers understand how MDA will evaluate the implementation of their nutrient management plans.
- Reviewed 20 nutrient management plans developed by consultants working in licensed firms. An additional 600 plans required for MACS cost-share projects were evaluated to ensure that they met regulatory standards.
- Hosted a one day State-of-the-Science Nutrient Management Research Briefing for farmers, consultants, legislators, agricultural organizations, environmental interests and other key stakeholders on the most recent research findings related to nutrient management. Approximately 100 stakeholders attended the event.
- Conducted eight regional work-group meetings to gain input from farmers, consultants, fertilizer company representatives, agricultural operations, Extension staff and others on ways to improve the NMP.

MARYLAND DEPARTMENT OF AGRICULTURE

Office of Resource Conservation
Nutrient Management Program
50 Harry S. Truman Parkway
Annapolis, MD 21401
410-841-5959
www.mda.state.md.us

Robert L. Ehrlich, Jr.
Governor

Michael S. Steele
Lt. Governor

Lewis R. Riley
Secretary of Agriculture

John R. Brooks, D.V.M.
Deputy Secretary